The Effect of Individual's Technological Belief and Usage on their Absorptive Capacity towards their Learning Behaviour in the Learning Environment

UTS UNIVERSITY OF TECHNOLOGY SYDNEY

The Effect of Individual's Technological Belief and Usage on their Absorptive Capacity towards their Learning Behaviour in the Learning Environment

by Thomas Dolmark

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Masters by Research

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Certificate of Original Authorship

I, Thomas Dolmark declare that this thesis, is submitted in fulfilment of the requirements for the award of Masters by Research, in the Information System Modelling School at the Faculty of Engineering and IT at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

This research is supported by the Australian Government Research Training Program.

Signature: Production Note:
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List of Publications

Conference Paper

Dolmark, T., Sohaib, O. & Beydon, G. 2019, 'The Effect of Technology Readiness on Individual Absorptive Capacity for Knowledge Transfer', *ISD 2019*, ed. C.B. A. Siarheyeva, M. Lang, H. Linger, & C. Schneider, Information Systems Development: Information Systems Beyond 2020 (ISD2019 Proceedings), Toulon, France: ISEN Yncréa Méditerranée.

https://aisel.aisnet.org/isd2014/proceedings2019/ISDMethodologies/17/

Working Papers

Dolmark, T., Sohaib, O. & Beydon, G. 'The Effect of Tools, Social Networks and Social Influences on Individual Absorptive Capacity toward Learning Behavior in Australian Universities'

Dolmark, T., Sohaib, O. & Beydon, G. 'The Effect of Technology Readiness on Individual Absorptive Capacity toward Learning Behavior in Australian Universities'

List of Abbreviations

Abbreviation	Explanation
ACAP	Absorptive CAPacity
PACAP	Potential Absorptive CAPacity
RACAP	Realised Absorptive CAPacity
TR	Technology Readiness
TRI	Technology Readiness Index
TAM	Technology Acceptance Model
TKS	Tools for Knowledge Sources
KMS	Knowledge Management System
LMS	Learning Management System
CMS	Content Management System
SI	Social Influences
SN	Social Networks
IWP	Individual Work Performance
SEM	Structural Equation Modelling
PLS	Partial Least Squares
CB	Co-variance Based
UTS	University of Technology Sydney
HC	Higher-order Constructs
HOC	Higher-Order Component
LOC	Lower-Order Components
CR	Composite Reliability
AVE	Average Variance Extract
HTMT	HeteroTrait-MonoTrait
VIF	Variance Inflation Factor
BCa	Bias-Corrected and accelerated
CTA	Confirmatory Tetrad Analysis
IMPA	Importance Performance Map Analysis

Abstract

While hard to define, knowledge is critical for organisational success. Organisations who know this spend a significant amount of resources to manage it. In organisations, there are three common barriers to knowledge transfer which are causal ambiguity, relation between knowledge holder and recipient, and recipient's Absorptive CAPacity (ACAP). Horizontal organizational structures appear to be an effective solution to causal ambiguity and relation between knowledge holder and recipient because they allow knowledge to flow across organisational silos. The recipient's ACAP is defined as a dynamic capability to absorb knowledge. While the content and its context are important for knowledge transfer, technology can also enhance learning.

This study addressed the gap in knowledge by examining the role of Technology Readiness (TR), Tools for Knowledge Sources (TKS), Social Influences (SI) and Social Networks (SN) in an individual's ACAP towards learning behaviour. The research addresses the following research question. What is the effect of an individual's technological belief and use on their capability to absorb knowledge towards their technological learning behaviour?

A research model is proposed to empirically test the relationship between TR and individual's ACAP towards learning behaviour. As beliefs affect behaviour, the TRI measures an individual's propensity towards technology. Other antecedents such as TKS, SI and SN may also have an effect on an individual's ACAP. To assess behaviour under control of an individual the Individual Work Performance (IWP) was adapted towards learning behaviours.

To test the presence of a causal effect, this study applied a quantitative approach to confirm theories. A survey was conducted at the University of Technology Sydney (UTS). An online questionnaire was used to collect data from students. A total of 199 participated in the survey. This questionnaire borrowed items from other academic peer reviewed journals. The data were analysed using the Partial Least Square (PLS)-Structural Equation Modelling (SEM) approach. The PLS approach had many benefits such as being flexible and the use of formative and reflective indicators. A High order Construct (HC) allowed abstraction in the research model. The disjoint two-stage approach enabled further validation of the measurement model in its second stage.

The results generated mixed findings. Among the different hypotheses enumerated, the individual's technological belief in Optimism and Innovation, and the SN had a significantly very weak effect on individual ACAP which in turn had a significantly weak effect on their learning behaviour. This study highlighted the need to assess individual ACAP and learning behaviour.

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